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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/506,318	02/17/2000	Fumio Echigo	10873.487US01	7531

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EXAMINER

GUARRIELLO, JOHN J

ART UNIT

PAPER NUMBER

1771

DATE MAILED: 09/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/586318

Applicant(s)

Echigo et al.

Examiner

John Guarnicelli

Group Art Unit

1921

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☒ Responsive to communication(s) filed on 3/3/2003
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 13-36 is/are pending in the application.
- Of the above claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 13-36 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
- ☐ received in Application No. (Series Code/Serial Number) _____
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other _____

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DETAILED ACTION

15. The Examiner acknowledges paper # 13, the amendment response of 3/3/2003.

16. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

17. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 102

18. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 13-15, 25-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Wright et al. 3,527,665.

Wright describes laminates where the substrate or base material is a fibrous non-woven mat or a woven fabric impregnated with a thermosetting resin which corresponds to the claimed resin varnish, (column 1, lines 57-65; column 3, lines 25-28; column 4, lines 8-24). Wright describes silica fillers which correspond to the claimed inorganic binder of the claimed invention, (column 3, lines 15-18) which improve dimensional stability. It is the Examiner's position that Wright describes the essential limitations of the claimed invention. Claims lack novelty.

Claim Rejections - 35 USC § 103

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

20. Claims 13, 18, 19, 25-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 807 703 in view of Nakatani 5,888,627.

EP '703 describes a non-woven fabric cloth and a prepreg and a printed wiring board using the non-woven fabric cloth substrate, (see abstract; page 2, lines 3-6; lines 33-53; page 3, lines 1-27). EP'703 differs from the claimed invention because it is silent about the inorganic binder of silica.

Nakatani describes printed circuit board with resin layers and inorganic filler (corresponding to the claimed inorganic binder) with nonwoven fabric material, (see abstract). Nakatani describes nonwoven fabric with inorganic insulating filler (corresponding to the claimed inorganic binder), (column 3, lines 30-47). Nakatani describes thermosetting resin, (column 3, lines 51-54).

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the the colloidal silica inorganic binder of Nakatani with the nonwoven fabric cloth of EP'703 motivated with the expectation that there would be an improvement in the properties of the nonwoven material for the dielectric properties for a more reliable circuit board as noted in EP'703 with improved insulating properties. Moreover, although siloxane bonding coating is not stated it would be obvious to one of ordinary skill in the art to use siloxane bonding for its ability for moisture reduction for the fibers in the circuit board utility.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J. Guarriello whose telephone number is (703) 308-3209. The examiner can normally be reached on Monday to Friday from 8 am to 4 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris, can be reached on (703) 308-2414. The

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fax phone number for the organization where this application or proceeding is assigned is (703) 305-5408.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



John J. Guarriello:gj

Patent Examiner

August 19, 2003

August 25, 2003



TERREL MORRIS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700